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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/835,884	04/16/2001	Arthur H. Sarkissian		4549

7590 01/02/2003
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EXAMINER

LAO, LUN YI

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 01/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/835,884

Applicant(s)
Arthur H. Sarkissian

Examiner
Lun-yi Lao

Art Unit
2673



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on September 5/2002 and October 5, 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-88 is/are pending in the application.
- 4a) Of the above, claim(s) 1-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-88 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) ☐ Other:

Art Unit: 2673

DETAILED ACTION

Drawings

1. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on October 12, 2002 have been disapproved because they introduce new matter into the drawings. 37 CFR 1.121(a)(6) states that no amendment may introduce new matter into the disclosure of an application. The original disclosure does not support the showing of 1) the arrangement of alphanumerical keys on Figs.12 and 13; for example, a first surround key does not include key-values of "TAB, SHIFT, and CTRL(see original Fig. 3a) and 2) a protrusion(26) which fits into groove(28).
2. Figure 9 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Art Unit: 2673

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 54-86 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The specification fails to disclose how a display built in applicant's keyboard to depicting a middle key, a key-surround key and a background as cited in claims 68, 71, 74 and 82. The new specification filed on October 12, 2002 only disclose touch sensing elements are conductive circuit elements within its display screen at each of key(see page 48, lines 6-12). The specification fails to disclose the display is a seven segment display or a matrix display, how to drive this display and how the touch sensing elements within the display screen to sense the touch of a user's finger. The specification fails to disclose the structure of a key with a display and a touch sensing elements. The specification only disclose a mechanical switch(18, 19) for a key to sensing the touch of a user's finger(see figures 3a, 3b and page 35, lines 6-12 of the new specification filed on October 12, 2002).

Art Unit: 2673

The specification fails to disclose how display means can detect touch on the surface of the display cited in claims 69, 72, 75, 78 and 83, or how a touch panel rests above the display to detect the touch as cited in claims 70, 73, 76, 79 and 84. The new specification filed on October 12, 2002 only disclose touch sensing elements are conductive circuit elements within its display screen at each of key(see page 48, lines 6-12) and a mechanical switch(18, 19) for a key to sensing the touch of a user's finger(see figures 3a, 3b and page 35, lines 6-12 of the new specification filed on October 12, 2002). However, the specification fails to teach how the touch sensing elements mounted on the display to sense the touch on the surface of the display.

The specification fails to disclose a first nesting module having a first key surround key having the key values of "SHIFT" and "TAB"; a second surround key having the key values of "~", ",", "@", and "ALT"; a third surround key having the key values of "ESC" and "F1"; a second nesting module having a second key surround key having the key values of "#", and "3"; a third surround key having the key values of "F2"; a third nesting module having a second surround key having the key values of "\$", and "4"; a third surround key having the key values of "F3"; a fourth nesting module having a second surround key having the key values of "^", and "6"; a third surround key having the key values of "F4", and "F5"; a fifth nesting module having a third surround key having the key values of "F6" and "F7"; a sixth nesting module having a third surround key having the key values of "F8"; a seventh nesting module having a third surround key having the key values of "F9"; a eighth nesting module having first key surround key having the key values of "}", "{", and "|"; a second surround key having the key values of "-", "_", and

Art Unit: 2673

"BACKSPACE", and "ALT"; a third surround key having the key values of "F10", "F11" and "F12"; and a ninth nesting module having a first key surround key having the key values of "Home", "PgUp"; "PgDn" and "End"; second key surround key having the key values of "Up", "DOWN"; "LEFT" and "RIGHT" as cited in claims 54 and 77 on the original specification(see original figure 3a).

The specification fails to disclose a first nesting module having a first key surround key having the key values of "SHIFT" and "TAB"; a second surround key having the key values of "~", "^", "6" and "'"; a third surround key having the key values of "ESC", "F1", "F2", "F3", "F4" and "F5"; a second nesting module having a first surround key having the key values of "P", "{", "}", and "|"; a second surround key having the key values of "-", "_", and "ctrl"; a third surround key having the key values of "F6", "F7", "F8", "F9", "F10", "F11", "F12" and a third nesting module having a first key surround key having the key values of "Home", "PgUp"; "PgDn" and "End"; second key surround key having the key values of "Up", "DOWN"; "LEFT" and "RIGHT" as cited in claims 62 and 82 on the original specification(see original figure 3a).

5. The amendment filed on October 15, 2002 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: "washer 25 is attached to the bottom of the key-surround module having a protrusion 26 which fits into groove 28 of base 27.

Applicant is required to cancel the new matter in the reply to this Office Action.

Art Unit: 2673

6. Claims 62-67 and 82-86 are rejected as failing to define the invention in the manner required by 35 U.S.C. 112, second paragraph.

The claim(s) are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device. The claim(s) must be in one sentence form only. Note the format of the claims in the patent(s) cited.

The recitations of “ a first nesting module, a second nesting module and a third nesting module” in claims 62 and 82 have conflicts with “a first, second and third nesting module” in claims 65, 85 and 86 since a first nesting module cited in claims 62 and 82 should be a first groups which including a first, second, third and fourth nesting module cited in claims 85 and 86.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 20, 87 and 88 are rejected under 35 U.S.C. 102(b) as being anticipated by Kazarian(5,949,401).

Art Unit: 2673

As to claims 20, 87 and 88, Kazarian teaches a key surround module input device(68) comprising a middle key(68a); a surround key(68b) and a support means for supporting the middle key(68a) and a surround key(68b)(see figures 1, 8 and column 6, lines 31-35).

9. Claims 20, 23, 87 and 88 are rejected under 35 U.S.C. 102(b) as being anticipated by Retter(4,913,573)

As to claims 20, 23, 87 and 88, Retter teaches a key surround module input device(110) comprising a middle key(21); a surround key(22-25) and a support means for supporting the middle key(21) and a surround key(22-25)(see figures 1A-6; column 7, lines 3-23 and column 9, lines 28-51).

As to claim 23, Retter teaches an input device for inputting QWERTY keyboard values(see figures 1A-4 and column 7, lines 2-23).

10. Claims 20, 21, 30-33, 87 and 88 are rejected under 35 U.S.C. 102(b) as being anticipated by Nagai(5,404,152).

As to claims 20, 21, 30, 87 and 88, Nagai teaches a key-surround module input device comprising a middle key(2); a first surround key(3); a second surround key(4); a third surround key(30) and support means(5)(see figures 3, 4, 15, 16, 19, 20; column 3, lines 52-68; column 4, lines 1-3; column 5, lines 62-68 and column 6, lines 1-6).

As to claims 21 and 31-33, Nagai teaches surround keys having a plurality of actuating constructs(33)(see figures 15, 16 and column 4, lines 25-35).

Art Unit: 2673

11. Claims 46 and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Leu et al(6,084,576).

As to claims 46 and 48, Leu et al teach a key surround input device comprising a plurality of rest-position middle keys(16, 83) which is a cursor navigating device; a plurality of key surround keys(Shift hand, Shift case, enter, return, space, backspace, “.”, and “,” or ÷, ×, +, -, and!) and support means(see figure 35 and column 27, lines 1-37).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 47 and 49-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leu et al(6,084,576) in view of Ben-Arie(5,408,621).

As to claims 47 and 49-53, Leu et al fail to disclose surround keys are plural direction pivotable keys and support means for rotating the middle key .

Ben-Arie teaches an input device having surround keys are plural direction pivotable keys(2) and supporting means with sliding washers(see figure 6) for rotating keys(2) (see figures

Art Unit: 2673

2, 5, 6, 7, 9; column 8, lines 47-68, column 9, lines 1-1-36 and column 10, lines 5-14). It would have been obvious to have modified Leu et al with the teaching of Ben-Arie, so as to reduce the total number of keys for controlling the movement of a cursor or entering alpha-numeric character to a computer(see Ben-Arie's column 4, lines 37-40 and lines 65-68).

14. Claims 21-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazarian(5,949,401) in view of Ben-Arie(5,408,621).

As to claims 21-29, Kazarian fails to disclose a surround key is a floating plural direction pivotable key.

Ben-Arie teaches a surround key(switch) is a floating plural direction pivotable key and is for inputting a plurality of QWERTY keyboard key-values(see figures 1-6, 7, 9; column 7, lines 39- 48; column 8, lines 52-68; column 9, lines 11-35 and column 10, lines 5-19). It would have been obvious to have modified Kazarian with the teaching of Ben-Arie, so as to provide a data entry system for efficient input of alpha-numeric and control characters that has a small number of manual multi-position keys(see column 4, lines 65-68) and minimize the space of the input device.

As to claims 24 and 27, Kazarian teaches the middle key(68a) is a cursor navigating device and support means having a base for allowing the movement of the middle key(68a)(see figures 1-6 and column 6, lines 32-49).

15. Claims 34-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagai(5,404,152) in view of Ben-Arie(5,408,621).

Art Unit: 2673

As to claims 34-45, Nagai fails to teach support means for rotating the middle key or plurality of middle keys.

Ben-Arie teaches an input device having supporting means with sliding washers(see figure 6) for rotating keys(2)(see figures 2, 5, 6, 7, 9; column 8, lines 47-68, column 9, lines 1-1-36 and column 10, lines 5-14). It would have been obvious to have modified Nagai with the teaching of Ben-Arie, so as to reduce the total number of keys for controlling the movement of a cursor or entering alpha-numeric character to a computer(see Ben-Arie's column 4, lines 37-40 and lines 65-68).

16. Claims 68-73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kazarian(5,949,401) in view of Dreher(4,551,717) and Shimauchi(4,812,833).

As to claims 68-73, Kazarian teaches a key surround module input device(68) comprising a middle key(68a) and a key surround key(68b)(see figures 1, 8 and column 6, lines 31-49).

Kazarian fails to disclose a display on a key and a touch sensor above the display.

Dreher teaches an input device comprising an LCD display mounted on a key(see figures 1-3 and column 2, lines 48-68). It would have been obvious to have modified Kazarian with the teaching of Dreher, so the value or indication of a key could be easy to change or reprogramming. Shimauchi teaches a touch sensor above a display(16)(see figures 1-3 and column 2, lines 25-48). It would have been obvious to have modified Kazarian as modified with the teaching of Shimauchi, so a mechanical switch on a key could be replaced by an electronic switch and to

Art Unit: 2673

reduce the possibility of erroneous input operation when the effective area of key is smaller(see Shimauchi's column 1, lines 34-39).

17. Claims 74-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Leu et al(6,084,576) in view of Dreher(4,551,717) and Shimauchi(4,812,833).

As to claims 74-76, see the discussion of Leu et al above, Kazarian fails to disclose a display on a key and a touch sensor above the display.

Dreher teaches an input device comprising an LCD display mounted on a key(see figures 1-3 and column 2, lines 48-68). It would have been obvious to have modified Leu et al with the teaching of Dreher, so the value or indication of a key could be easy to change or reprogramming.

Shimauchi teaches a touch sensor above a display(16)(see figures 1-3 and column 2, lines 25-48). It would have been obvious to have modified Leu et al as modified with the teaching of Shimauchi, so a mechanical switch on a key could be replaced by an electronic switch and to reduce the possibility of erroneous input operation when the effective area of key is smaller(see Shimauchi's column 1, lines 34-39).

Art Unit: 2673

Conclusion

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Liljenquist(4,940,346) teaches different visual patterns applied to each of the keys.

Grezeszak(6,132,118) teaches a keyboard having left-hand and right-hand keys(see figures 5-6).

19. Applicant's arguments with respect to claims 20-87 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that Kazarian(5,949,401)'s input device is different from applicant's key-surround input device. However, Kazarian teaches an input device having the limitations cited in claims 20, 87 and 88(see the claims rejection above).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR

Art Unit: 2673

1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lun-yi, Lao whose telephone number is (703) 305-4873.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala, can be reached at (703) 305-4938.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

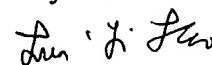
(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

April 5, 2002

Lun-yi Lao



Lun-Yi Lao
Primary Examiner